

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Former Nextel Communications,	)	WT Docket No. 06-169
Inc. Upper 700 MHz Guard Band	)	
Licenses and Revisions to Part	)	
27 of the Commission's Rules	)	
	)	
Development of Operational,	)	WT Docket No. 96-86
Technical and Spectrum	)	
Requirements for Meeting	)	
Federal, State and Local Public	)	
Safety Communications	)	
Requirements Through the Year	)	
2010		

**COMMENTS OF THE CRITICAL INFRASTRUCTURE COMMUNICATIONS  
COALITION**

**Critical Infrastructure Communications  
Coalition**

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## **SUMMARY**

The Critical Infrastructure Communications Coalition supports the proposal to allocate the returned guard band spectrum for critical infrastructure entities. This would serve the public interest by promoting the safety, efficiency and reliability of the delivery of essential services to the public at large. It would also promote interoperability between critical infrastructure industry and public safety communications systems. Moreover, it would further Congress's intent in the BBA 97 to allocate auction-exempt spectrum for public safety radio services by utilities, pipelines and other critical infrastructure industries. Finally, it would protect public safety from interference from commercial systems, consistent with the fundamental purpose of the guard band spectrum. All this could be accomplished quickly and easily compared to other proposals to reband the 700 MHz spectrum, because it would not require new rules or additional legislation from Congress. However, should the Commission decide to reband this portion of the 700 MHz frequency band, CICC recommends that the necessary guard bands created to protect public safety operations be made available to critical infrastructure entities to help meet their growing communications needs.

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**COMMENTS OF THE CRITICAL INFRASTRUCTURE COMMUNICATIONS  
COALITION**

The Critical Infrastructure Communications Coalition ("CICC") hereby submits the following comments in the above-referenced rulemaking.<sup>1</sup> The CICC supports the designation of returned Nextel spectrum for use by critical infrastructure industries (CII), as originally proposed by UTC/Motorola and further described by Motorola. Designating a portion of this spectrum for critical infrastructure industries would serve the public interest in three ways. First, it would promote critical infrastructure communications by providing access to dedicated spectrum. Second, it would promote interoperability with public safety because the spectrum would be adjacent to public safety spectrum. Finally, it would protect public safety against interference from commercial operations by

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<sup>1</sup> *Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules*, Notice of Proposed Rulemaking, WT Docket No. 06-169, 2006 WL 2595221 (released Sept. 8, 2006)(hereinafter "NPRM").

placing a buffer that would be used compatibly with public safety communications in the 700 MHz band. In the alternative, should the Commission determine that a re-organization of the Public Safety allocation and current guard band spectrum be in the public interest, CICC urges that necessary guard bands that are likely to be created between commercial and Public Safety operations be made available to CII entities for critical private, internal wireless systems.

There are several legal and practical considerations that favor designating a portion of non-Public Safety 700 MHz spectrum for critical infrastructure communications. Namely, this use of the spectrum would be consistent with the Balanced Budget Act of 1997 (“BBA 97”) and the technical rules established for the 700 MHz band, and therefore it would not require additional legislation, spectrum auctions, or restructuring of the 700 MHz channel plan. Instead, the licensing of the spectrum to critical infrastructure entities could be accomplished by using the existing Part 27 rules for the 700 MHz guard bands and adding eligibility rules based upon the FCC’s definition of “public safety radio services.”<sup>2</sup> Avoiding extensive rule changes in this way would also clear the way for the Commission to meet its auction schedules for licensing the Upper 700 MHz band by January 2008. As such, the CICC supports designating the returned Nextel spectrum for use by critical infrastructure entities.

## **I. Introduction**

The CICC represents industries that own, manage or operate communications systems to maintain and protect the nation’s critical

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<sup>2</sup> See, 47 U.S.C. § 309(J)(2).

infrastructure. Its members include representatives from the electric, gas, and water utility industries, as well as representatives from the nation's railroads and petroleum industries. Specifically, the CICC includes representatives from:

American Petroleum Institute

American Public Power Association

American Water Works Association

Association of American Railroads

Association of Metropolitan Water Agencies

Edison Electric Institute

National Rural Electric Cooperative Association

United Telecom Council

Thus, the CICC serves as the collective voice for critical infrastructure communications that support the safe, efficient and reliable delivery of essential services to the public at large.

Since 1999, the CICC has advocated at Congress and the FCC to promote access to spectrum for critical infrastructure communications, which are increasingly plagued by congestion and interference. Still, the Commission has yet to provide dedicated spectrum for critical infrastructure communications, and its policies have tended to exacerbate spectrum congestion and interference facing critical infrastructure industries. Meanwhile, CI entities are under increasing consumer and homeland security demands during a time when hurricanes, ice storms and other natural disasters have created additional challenges. Moreover, federal and state requirements, including the Energy

Policy Act of 2005, are expected to increase significantly some CII entities' reliance on spectrum-based systems as they migrate to "smarter" and more advanced core service infrastructures. Therefore, it is crucial for the Commission to address this growing threat.

Critical infrastructure communications systems provide data and voice services that are essential for day-to-day operations and emergency response scenarios. As such, they must remain reliable. Therefore, these private internal communications systems are designed, built and maintained to meet high performance standards -- as was demonstrated after Hurricane Katrina when utility communications systems remained operational while commercial systems did not.<sup>3</sup> These systems also help to protect against widespread outages, as was demonstrated during the Northeast Blackout in August 2003 when critical infrastructure communications systems helped limit the extent of the blackout and greatly reduced the length of time required to bring more than one hundred power generating plants back on line.

However, the performance of these systems is only as good as the spectrum they use. Spectrum should be free from interference and it should have favorable propagation characteristics. To meet interoperability goals, it should also be nationwide. The reality is that such spectrum is in short supply. Although far from perfect, the returned Nextel spectrum -- or otherwise-created guard bands -- would be a start. Even though the upper 700 MHz band is

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<sup>3</sup> *In the Matter of Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, Notice of Proposed Rulemaking, EB Docket No. 06-119, 2006 WL 1686677, Appendix B, at 12-13 (2006) ("Electric utility networks (including utility-owned commercial wireless networks) appeared to have a high rate of survivability following Katrina.")

presently encumbered, incumbents must move by 2009. Moreover, the 700 MHz spectrum would provide the potential for nationwide cost-effective coverage for voice and data communications depending on the type of topography. To be sure, interference from adjacent commercial systems in the 700 MHz band would be a concern, and the CICC urges the Commission to maintain existing rules that reduce the potential for interference, particularly given the magnitude of the impact that such interference might have on essential services to the public at large. Therefore, the CICC supports the designation of the returned Nextel spectrum for critical infrastructure communications, as more fully described below.

## **II. Discussion**

### **A. Designating the Returned Nextel Spectrum for Critical Infrastructure Communications Would Be in the Public Interest.**

In the NPRM, the Commission asks for comment regarding the public interest benefits of designating the returned Nextel spectrum for critical infrastructure communications.<sup>4</sup> Specifically, it inquires regarding the benefits for interoperability with public safety, whether this would be the “highest and best use” of the spectrum, and whether there is a demonstrable need for critical infrastructure industries to acquire additional spectrum for interoperability with public safety that cannot be met through other means.

The returned Nextel 700 MHz spectrum is necessary to promote interoperability between critical infrastructure and public safety. First, there is no

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<sup>4</sup> *NPRM* at ¶38.



spectrum currently designated for interoperability between critical infrastructure communications and public safety operations. Nor, in the aftermath of refarming,<sup>5</sup> is there any spectrum exclusively allocated for critical infrastructure at all. This is startling in view of the fact that critical infrastructure entities and public safety are often first to respond to emergencies and must coordinate with each other during those emergencies.

As Hurricane Katrina demonstrated, these emergencies can be catastrophic and widespread – requiring radio communications to coordinate relief and service restoration efforts. CII response to any large-scale emergency generally involves crews from all across the country, as well as state, local and federal agencies, and critical infrastructure entities often must use multiple radios just to communicate with outside personnel in a mutual aid scenario. To the extent that critical infrastructure entities are capable of communicating with public safety at all, those communications are as much, if not more, complicated by the lack of dedicated spectrum for critical infrastructure allocated adjacent to public safety spectrum. Conversely, dedicating this spectrum for critical infrastructure communications would promote interoperability among critical infrastructure entities and public safety agencies; its location adjacent to public safety spectrum

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<sup>5</sup> Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Service and Modify the Policies Governing Them, *Report and Order and Further Notice of Proposed Rulemaking*, PR Docket No. 92-235, 10 FCC Rcd 10076 (1995) ( *Refarming Report and Order*); *Memorandum Opinion and Order*, 11 FCC Rcd 17676 (1997) ( *Refarming Memorandum Opinion and Order*); Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, *Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 99-87, 15 FCC Rcd 22709 (1999); *Second Report and Order and Second Further Notice of Proposed Rule Making*, WT Docket No. 99-87, 18 FCC Rcd 3034 (2003) ( *Narrowbanding Second Report and Order*); *Order*, 18 FCC Rcd 25491 (2003); *Third Memorandum Opinion and Order and Third Further Notice of Proposed Rule Making*, WT Docket No. 99-87 and RM-9332, FCC 04-294, 19 FCC Rcd 25120 (2005) ( *Narrowbanding Third MO&O*).

would enable wireless devices to be coordinated across the same frequency band in an emergency scenario.<sup>6</sup>

There is no existing alternative that provides the same promise for intra-industry and inter-responder interoperability that use of a 700 MHz guard band offers. Due to its favorable propagation characteristics, the 700 MHz spectrum would allow critical infrastructure entities to construct new communications facilities cost-effectively. Due to its nationwide availability, the spectrum could be used reliably across the country to provide interoperable communications. The spectrum need not be auctioned – a key issue for these entities given their auction-exempt status. Finally, the amount of spectrum involved is both miniscule compared with other allocations in this frequency band alone and unusable by any other party due to the likely interference across some of it from adjacent operations.

As a means of promoting more effective emergency response and enabling critical services to the public, CICC believes that allocating the spectrum for critical infrastructure communications would put the spectrum to its highest and best use . A full 30 MHz of unencumbered spectrum will be included in the eventual upper 700 MHz auction, while this allocation is relatively small and commercially unattractive. Band managers were unsuccessful in even being able to lease portions of the spectrum following their own participation in its original auction. Thus, it is unlikely that re-auctioning the returned spectrum

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<sup>6</sup> It should be noted that CII entities generally use the same types of wireless equipment employed by public safety agencies, provided by the same manufacturers; necessary interoperability has been hampered by the lack of dedicated CII spectrum and the scattering of entities' operations among several frequency bands.

would lead to either much participation or a successful alternate use. It would require greater upfront costs than leasing, and the commercial prospects for such spectrum are at best unclear. Conversely, if the spectrum was allocated for critical infrastructure communications, the public interest benefits from promoting interoperability and critical infrastructure communications would outweigh the speculative revenues from a re-auction for commercial purposes. For all these reasons, designating the spectrum for critical infrastructure communications would put the spectrum to its highest and best use.

**B. The Spectrum Can be Licensed Quickly and Easily Using Existing Part 27 Rules and FCC Definitions.**

In its NPRM, the Commission asks how it could license the spectrum if it designated it for use by critical infrastructure industries.<sup>7</sup> Specifically, it asks about eligibility restrictions; whether it should adopt licensing mechanisms that avoid auctions; and whether it should recover all of the guard band spectrum (in addition to the returned Nextel spectrum) and relicense it.<sup>8</sup>

The beauty of designating this spectrum for use by critical infrastructure entities is its simplicity. It would not require additional legislation, as would some other proposals.<sup>9</sup> Nor would it require rebanding, as others would. Instead, the

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<sup>7</sup> NPRM at ¶38.

<sup>8</sup> *Id.*

<sup>9</sup> Some parties propose that the 700 MHz should be rebanded by shifting the guard bands and increasing the size of the public safety band. This would require additional legislation from Congress, because Congress only authorized 24 MHz of spectrum for public safety and 30 MHz for commercial systems when it reallocated the 700 MHz band as part of the Balanced Budget Act of 1997.

spectrum could easily and quickly be licensed using existing Part 27 rules, which provide for flexible use of the bands.<sup>10</sup> As the Commission has recognized, flexible use rules promote effective use of the spectrum and the rapid deployment of systems.

Similarly, eligibility could be based on the Commission's definition of entities that provide "public safety radio services," but which are not traditional public safety entities. That is, eligibility would be limited to "entities that (1) have an infrastructure that they use primarily for the purpose of providing essential public services to the public at large; and (2) need, as part of their regular mission, reliable and available communications in order to prevent or respond to a disaster or crisis affecting the public at large."<sup>11</sup> As the Commission explained in the BBA 97 R&O, this definition would encompass electric utilities and railroads, as well as pipeline companies that Congress intended to fall within the scope of the statutory term, "public safety radio services."<sup>12</sup> As the Commission also explained, it would exclude other private wireless entities that do not provide similar services as utilities, railroads, pipeline companies and similar entities.<sup>13</sup> As such, this would demonstrably provide a workable definition for purposes of eligibility in the band, and would avoid a protracted proceeding to develop

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<sup>10</sup> See, 47 C.F.R. § 27.1 *et. seq.*

<sup>11</sup> *Implementation of Sections 309(j) and 337 of the Communications Act of 1934, as Amended*, WT Docket No. 99-87, Report and Order, 15 FCC Rcd. 22709, 22747, ¶ 77 (2000) ("BBA 97 R&O"). CICC also recommends the use of the FCC-developed definition of "Critical Infrastructure Industry" as found at 47 C.F.R. § 90.7.

<sup>12</sup> *Id.* at ¶78.

<sup>13</sup> *Id.* at ¶80.

eligibility rules. Moreover, if the Commission were to allocate the band for critical infrastructure communications, it would be acting consistent with Congress's intent to make auction-exempt spectrum available for public safety radio services.

By using the existing rules in this way and avoiding delays, the Commission would ensure that it has adequate time "to conduct the auction of recovered spectrum in accordance with the relevant statutory requirements."<sup>14</sup> It would also conserve administrative resources that could be devoted to other policy matters.

In this regard, the CICC is aware that Motorola has revised its initial proposal as filed jointly with UTC to designate all the returned Nextel spectrum for critical infrastructure communications, and that now Motorola proposes to reband the 700 MHz band using the remaining guard band spectrum, along with the returned Nextel guard band spectrum. The CICC does not oppose this proposal; as noted above, CII would still benefit from access to whatever guard band spectrum would still be needed should the upper 700 MHz band be rebanded. However, if the Commission concludes that it cannot accommodate this proposal and still meet its statutory deadline to auction the Upper 700 MHz band by January 2008, the CICC urges the Commission to grant the initial proposal that Motorola made with UTC to designate the returned Nextel guard band licenses spectrum for critical infrastructure communications.

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<sup>14</sup> See *NPRM* at ¶5. See also Separate Statements of Chairman Martin and Commissioners Copps (reminding that the Commission has a statutory deadline to auction the upper 700 MHz band by January 2008).

### **C. Designating the Spectrum for Critical Infrastructure Communications would Protect Public Safety Against Interference from Commercial Systems.**

Fundamentally, the guard bands were created to protect public safety from interference from commercial systems.<sup>15</sup> Consistent with this fundamental purpose, the Commission should designate the guard band spectrum for uses that are compatible with public safety communications. Critical infrastructure communications are compatible with public safety, because they both need highly reliable communications for both everyday communications and to respond to emergency situations. Both tend to use high-site, non-cellular architectures, although both communities are migrating to more advanced, digital architecture as equipment life cycles and funding permit. Both use much of the same equipment in the field, as well. With access to a small portion of the 700 MHz spectrum, CII entities would purchase the same equipment already being deployed by public safety agencies.<sup>16</sup> Hence, the systems, their use, and the traffic carried over them would be entirely compatible with each other, especially given existing rules promulgated for the guard bands to protect public safety operations.

### **III. CONCLUSION**

**WHEREFORE THE PREMISES CONSIDERED**, the CICC respectfully recommends that the Commission designate the returned Nextel spectrum for

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<sup>15</sup> See Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *First Report and Order*, 15 FCC Rcd 476, 490-491, ¶33 (2000) ("*First Report and Order*").

<sup>16</sup> It should be noted that many CII entities, such as municipal electric and gas utilities, and most water systems, are government-owned and therefore, already considered public safety eligibles by the FCC. Where 700 MHz radio systems are under consideration or being deployed by municipalities, some of these entities are already likely to be included among users.

critical infrastructure industry communications, as currently defined by the FCC. This would serve the public interest by promoting the safety, efficiency and reliability of the delivery of essential services to the public at large. It would also promote interoperability between critical infrastructure industry and public safety communications systems. Moreover, it would further Congress's intent in the BBA 97 to allocate auction-exempt spectrum for public safety radio services by utilities, pipelines and other critical infrastructure industries. Finally, it would protect public safety from interference from commercial systems, consistent with the fundamental purpose of the guard band spectrum. All this could be accomplished quickly and easily compared to other proposals to reband the 700 MHz spectrum, because it would not require new rules or additional legislation from Congress. However, should the Commission decide to reband this portion of the 700 MHz frequency band, CICC recommends that the necessary guard bands created to protect public safety operations be made available to critical infrastructure entities to help meet their growing communications needs.

Respectfully submitted,

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